

King County LinkUp Shingles in Paving Demo Project

Summary of Advisory Group Meeting #1, Tuesday October 16, 2007

These notes summarize the first meeting of the Advisory Group for the King County LinkUp Shingles in Paving Demonstration Project. The meeting was held on Tuesday October 16, 2007 at the King Street Center in Seattle, WA.

The following Advisory Group members participated:

- *Bill Brickey, Wilder Construction Company*
- *Joe DeVol, WSDOT*
- *John Grisham, Woodworth & Company*
- *Kevin Kelsey, KCDOT*
- *Dick Lilly, SPU*
- *Merv Reykdal, ARR*
- *Jim Weston, WSDOT*
- *Victor Woo, KCDOT*

The following project staff participated:

- *Kris Beatty, King County LinkUp*
- *Julie Colehour, King County LinkUp Consultant Support (Colehour + Cohen)*
- *Michelle Caulfield, King County LinkUp Consultant Support (Cascadia Consulting Group)*
- *Dan Krivit, King County LinkUp Consultant Support (Dan Krivit & Associates)*

The following Advisory Group members were absent but were given the opportunity to provide input and feedback on the draft meeting notes:

- *Jim Eagan, KCDOT*
- *Ben Hansen, SDOT*
- *Rick Hess, Puget Sound Clean Air Agency*
- *Steven Read, SPU*
- *Gabriella Uhlar-Heffner, SPU (Dick Lilly participated on Gabriella's behalf)*
- *Jeff Uhlmeier, WSDOT (Jim Weston participated in Jeff's behalf)*

MEETING OBJECTIVES

- Approve the charge and charter of the group
- Address any outstanding questions from a memo recently sent to project stakeholders to summarize research on the use of asphalt shingles in hot mix asphalt.
- Review the refined scope of work for project
- Discuss and develop criteria for selecting a paving demonstration project

KEY OUTCOMES

- The group approved the draft advisory group charter
- There was a good discussion about the research memo. Overall, the group seemed to find the research helpful in thinking about needs specific to a King County project.
- The group felt the refined scope of work was thorough and complete.
- There was fairly good agreement on the “musts” and “wants” in terms of the selecting the best demonstration project in King County.

King County LinkUp Shingles in Paving Demo Project

Summary of Advisory Group Meeting #1, Tuesday October 16, 2007

- There was a general feeling that this is the right group to lead a successful demonstration project in King County.

AGENDA ITEM #1: OVERVIEW OF ADVISORY GROUP

Kris Beatty presented the charge and charter for the group, which included a brief summary of the problem, the role of King County and Advisory Group members, and the scope of the group.

- *The group approved draft advisory group charter.*

AGENDA ITEM #2: RESEARCH SUMMARY MEMO

As a follow-up to the August 21 stakeholder meeting, the project team drafted and circulated a memo to summarize research on the use of asphalt shingles in hot mix asphalt. The lessons learned and opportunities in the current body of research are the foundation for the King County demo project. Overall, the group found this research summary useful and relevant. Below is a summary of the discussion surrounding the research memo.

What is the difference between manufacturing scrap and tear-off scrap (Jim Weston)?

- Manufacturing scrap is generally free of nails and other debris, newer, from a single source, more easily certified, more researched so the properties are more well-defined, is about 1/10th of the volume of tear-off scrap, and is not always being landfilled (Dan Krivit).
- Tear-off scrap can be from a diverse set of sources. It is a post-consumer material so more likely to be contaminated. Asbestos is more of a concern. Tear-off scrap and tear-off can be higher in asphalt content (Dan Krivit).

What is the maximum size for the recycled shingle (Victor Woo)?

- Typically 1/2 minus but some want it finer (7/16) to get more utilization and quality-control (Dan Krivit).

In terms of the retained tensile strength test, is this the Lottman Test (Victor Woo)?

- I think so, but I would need to get back to you (Dan Krivit).
- It seems the question is really about moisture and susceptibility, which would be the Lottman test. This would be tested for during design (Joe DeVol).

Are we talking about only tear-off shingles (Joe DeVol)?

- Yes (Group)
- There are sources of manufacturing scrap. Pabco Roofing in the Port of Tacoma is making 3-tab (asphalt shingles). Thinks the scrap is currently going to landfill in Aberdeen (John Grisham). Also there is IKO in Sumas. Believe IKO is sending their scrap north of the border for use as fuel for a cement plant and in HMA (Bill Brickey).

Comments and clarifications on the memo (Joe DeVol):

- Page 5 of the memo: clarification that the last bullet refers to the percentage of the RAS as feedstock, not the final mix.

King County LinkUp Shingles in Paving Demo Project
Summary of Advisory Group Meeting #1, Tuesday October 16, 2007

- Page 5 of the memo: first bullet should be decreased, not increased.
- Good catches, we will update the memo (Dan Krivit and Kris Beatty).

Can you tell me more about the forthcoming publications on the Ramsey County, MN project highlighted in the memo (Joe DeVol)?

- There are presentations online and there will be written summaries developed for the grant but they are not peer reviewed. Dan will provide these written observations to the group when that is complete. There is talk about the value in a journal publication, but no firm plans to do so currently. Several of the key researchers on this work will be at the shingles conference in Chicago, so that might be a good time to connect with them further (Dan Krivit).
- It would be good to see more recent results from the MNDOT project (Joe DeVol).

Who is attending the Shingle Forum in Chicago in November 1 & 2 (Dan Krivit)?

- Kris Beatty (King County LinkUp)
- John Grisham and maybe Butch Brooks, VP (Woodworth & Company Inc)
- Bill Brickley or other representative (Wilder Construction Company)
- Merv Reykdal and Barbara Williams (American Roofing Recyclers)
- Jim Eagan (KCDOT)
- Joe DeVol (WSDOT)

I am interested in knowing more about the RMRC (Recycled Material Resource Center) recommendations of AASHTO procedures (Joe DeVol).

- Two organizations have separate recommendations forthcoming. One from a task force that includes Missouri, Kentucky and Minnesota as part of the Spring 08 AASHTO ballot. Second is a best practices guide being developed by CMRA (Construction Materials Recycling Association). This is a white paper on environmental issues that will be posted after the Shingle Forum (Dan Krivit).
- Shinglesrecycling.org is the one-stop shop for the reports and studies on shingles recycling in paving projects (Dan Krivit).

AGENDA ITEM #3: REVIEW REFINED PROJECT STRATEGY (SCOPE OF WORK)

Michelle Caulfield walked the group through the refined project strategy (scope of work document). The strategy has been modified from the original scope of work based on input from agencies representatives and stakeholders. The group felt the strategy was thorough and on the right track. Following is a summary of questions or comments raised.

What is the plan for testing and evaluation? Will we specifically look at smoothness and rideability tests for example (Jim Weston)?

- We will be looking to this group for input on the right mix of testing and evaluation (Michelle Caulfield & Kris Beatty).

King County LinkUp Shingles in Paving Demo Project

Summary of Advisory Group Meeting #1, Tuesday October 16, 2007

- We will look at the standard list of performance tests and then inquire with you all about additional that tests need to be done (Dan Krivit).
- We have a small budget for testing and lab work though we would like to explore if there is a lab that would donate services as well (Kris Beatty).

Will there be a control section (Jim Weston)?

- Yes (Dan Krivit).

AGENDA ITEM #4: DISCUSS PROJECT CRITERIA

Julie Colehour facilitated a discussion on the musts and wants for the ideal project to demonstrate and test tear-off shingles in a King County paving project. The full list of musts and wants are below, followed by a summary of the discussion.

Musts:

- Piggy-back within existing project
- Minimum quantity of 3,000 tons of HMA
- Allow project selected to drive specification
- Only variable should be RAS (3%-5%)
- Need control strip
- Use a common mix (75 gyrations)
- Overlay project (remove and replace)
- Top course to better show impacts
- Make sure project has good underlay
- Pre-site review needed to determine the project has a good underlay

Wants:

- High-load project (e.g. transfer station, industrial, bus route, port)
- King County project

Key Discussion Points

- We should consider the full range of projects for using tear-off shingles including parking lots, residential streets, etc. Roads are not the only use of the material and the goal is to get the stuff out of landfills. It will be the job of agencies from a policy perspective to help grow the market for this material through tools such as manipulating tipping fees. Did not see these market development activities on the scope of work document (Dick Lily).
- We will use the results of the demonstration to pursue market development (Kris Beatty).
- From a producer standpoint, we should try to demonstrate the highest level use – however, minimizing risk is key. Need the comfort level as a producer. Three key recommendations from the producer perspective 1) Don't try too much complexity right away – more risk equals more complexity; 2) Require that specs be met within reason; 3) Take baby steps (John Grisham)
- Recommendation from several in the group that we be clear about what is unique to our climate and environment (e.g. moisture issue) and don't spend time testing what has already been tested elsewhere. Don't reinvent the wheel (Several members).

King County LinkUp Shingles in Paving Demo Project

Summary of Advisory Group Meeting #1, Tuesday October 16, 2007

- Woodworth has projects with tear-off shingles in private projects already. This is doable. This is the right group to get the specs that we need (John Grisham).
- Don't analyze for ten years, let's do this right, start small, low impact project and work up. Also consider a two-phase demonstration (Kevin Kelsey).
- Parking lots and trails are not appropriate. Start with a high load project. Adding RAS changes the oil properties, makes it stiffer. Appropriate for this kind of mixture. Add 5% shingles and go with a lower grade oil (Victor Woo).
- What County projects are up and coming? This drives the project and the specs (Joe DeVol). We need to select the project first; the project will drive the specification development (Several members).
- The demonstration will likely be a piggyback on a large project (Several members).
- We should be looking for a project that offers 2,500 to 3,000 tons of HMA to test.
- To be successful, the project needs to be relatively easy on the producer.
- Start with a high load project; parking lots and trails can come into play down the road (John Grisham).
- How much risk do we want to take on? WSDOT would not typically put it in a high load to get funding. Do we want more assurances before putting into a more high risk area? Eliminating risk will be an issue in the bidding process (Joe DeVol).
- The County has been using WSDOT mixes that are not as appropriate for the County. Maybe we should be looking at the County and the future types of mixes it intends to use (75 gyrations versus 100 gyrations). King County is looking to revise the standard it uses (Victor Woo).
- WSDOT is also set up to do – and does – 75 gyration mixes. 75 gyration is common ground between the County and the State (John Grisham).
- Is there a preference for overlay or base course (Kris Beatty)? There was general agreement on an overlay as this project will likely be funded as part of an overlay project. A key factor in the project will be to ensure that the base course is solid and sound. Site review should be part of the project selection process. We will want to assess the underlying subgrade with whatever project we select.
- Is there any room here for a low impact project (like a trail or sidewalk) where we can beef up the RAS percentage to 10% to 12% in order to get more shingles out of the landfill. Perhaps low impact projects could readily absorb the tear-off shingles out there (Merv Reykdal). Our research so far has shown that those types of projects don't have potential to divert as much materials as roadways (Julie Colehour). Typically the low impact (trails) demonstration projects across the country only use a 5% or less RAS (Michelle Caulfield). Yes. Most are still based on the same standard as road projects. Successful road projects can drive non-road projects. This helps to assure success and offers greater relevance. Relevance will flow downward (Dan Krivit).
- *One comment made subsequent to the meeting by Jim Weston to Kris Beatty was that if the selected project has a trail or sidewalk area adjacent to it and part of the project, then it may be easy to do a small section with the HMA containing RAS even at a higher percentage to see how it performs (Jim Weston).*

NEXT STEPS

- Attend Shingles Forum and report back.
- Kris Beatty to work on researching possible King County projects.
- Team to draft notes from meeting and distribute.